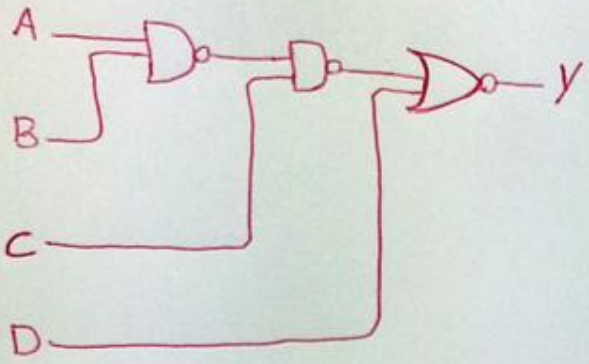
QZ – 1 | Term 151 | Name: _____

EE200-Lab | Sec: 55 | ID No: Solution

1. Draw the circuit diagram for the Boolean expression:

$$Y = (((A.B)'.C)' + D)'$$



2. Obtain the truth table of the following Boolean expression:

$$Y = A'BC + A'B'C' + B'C + C' + ABC$$

Method 1)

$Y = BC(A + \acute{A}) + \acute{C}(\acute{A}\acute{B} + 1) + \acute{B}C$

$= BC + \acute{C} + \acute{B}C$

$= C(B + \acute{B}) + \acute{C}$

$= C + \acute{C}$

$= \boxed{1}$

A	B	C	Y	case num.
0	0	0	1	1
0	0	1	1	2
0	1	0	1	3
0	1	1	1	4
1	0	0	1	5
1	0	1	1	6
1	1	0	1	7
1	1	1	1	8

2) $Y = \acute{A}BC + A\acute{B}\acute{C} + \acute{B}C + \acute{C} + ABC$

Cases where Y=1: (4), (1), (2), (6), (1), (3), (5), (7), (8)